

Claims:

1. A computer-implemented method for helping a learner practice by providing hints, the method comprising steps as follows:
  - 5 providing a simple question to a learner;
  - making a decision on whether a hint is to be provided to the learner;
  - providing a hint to the learner if the decision is "yes;"
  - receiving a learner-given answer from the learner; and
  - checking whether the learner-given answer is correct.
- 10 2. A method in accordance with claim 1 wherein the step of making a decision on whether a hint is to be provided to the learner comprises following steps:
  - checking whether all hints have been provided to the learner; and
  - checking whether the learner needs a hint, wherein the decision is "yes" if
  - 15 all hints have not been provided to the learner and if the learner needs a hint.
3. A method in accordance with claim 2 wherein the step of checking whether all hints have been provided to the learner is performed before the step of checking whether the learner needs a hint.
- 20 4. A method in accordance with claim 1 wherein it returns to the step of making a decision on whether a hint is to be provided to the learner if the learner-given answer is incorrect.
5. A method in accordance with claim 1 further comprising a step of retrieving a correct answer for the simple question before the step of

checking whether the learner-given answer is correct.

6. A computer-implemented method for helping a learner practice wherein a plurality of simple questions are sorted into various grades, the method comprising the steps of:

5 providing at least one simple question of a grade to a learner;  
receiving a learner-given answer from the learner;  
checking whether the learner-given answer is correct;  
returning to the step of providing at least one simple question based on the determination whether the learner-given answer is correct.

- 10 7. The method in accordance with claim 6 further comprising a step of receiving a response from the learner wherein the response is one of "easy," "fit," and "difficult."

- 15 8. The method in accordance with claim 7 further comprising a step of checking whether the grade to which the first simple question belongs reaches the highest grade if the response is "easy."

9. The method in accordance with claim 8 wherein the second simple question is provided from a higher grade than the first simple question is if the grade to which the first simple question belongs is not the highest grade.

- 20 10. The method in accordance with claim 7 wherein the second simple question is provided from the same grade as the first simple question is if the response is "fit."

11. The method in accordance with claim 7 further comprising a step of checking whether the grade to which the first simple question belongs

reaches the lowest grade if the response is "difficult."

12. The method in accordance with claim 11 wherein the second simple question is provided from a lower grade than the first simple question is if the grade to which the first simple question belongs is not the lowest grade.

13. The method in accordance with claim 11 further comprising a step of explaining the concept of the simple question to the learner if the grade to which the first simple question belongs reaches the lowest grade.

14. The method in accordance with claim 6 wherein a plurality of simple questions are provided in the step of providing at least one simple question.

15. The method in accordance with claim 14 further comprising a step of evaluating the score of the learner before returning to the step of providing simple questions.

16. The method in accordance with claim 15 further comprising a step of checking whether the grade to which the first plurality of simple questions belong reaches the highest grade if the score is better than a pre-determined upper criterion.

17. The method in accordance with claim 16 wherein the second plurality of simple questions are provided from a higher grade than the first plurality of simple questions are if the grade to which the first plurality of simple questions belong is not the highest grade.

18. The method in accordance with claim 15 wherein the second plurality of simple questions are provided from the same grade as the first plurality of

simple questions are if the score is between pre-determined upper and lower criteria.

19. The method in accordance with claim 15 further comprising a step of checking whether the grade to which the first plurality of simple questions belong reaches the lowest grade if the score is worse than a pre-determined upper criterion.

20. The method in accordance with claim 19 wherein the second plurality of simple questions are provided from a lower grade than the first plurality of simple questions are if the grade to which the first plurality of simple questions belong is not the lowest grade.

21. The method in accordance with claim 19 further comprising a step of explaining the concept of the simple questions to the learner if the grade to which the first plurality of simple questions belong reaches the lowest grade.

22. The method in accordance with claim 15 further comprising a step of receiving a response from the learner if the score is better than a pre-determined upper criterion wherein the response is one of "easy," "fit," and "difficult."

23. The method in accordance with claim 22 further comprising a step of checking whether the grade to which the first plurality of simple questions belong reaches the highest grade if the response is "easy."

24. The method in accordance with claim 23 wherein the second plurality of simple questions are provided from a higher grade than the first plurality of simple questions are if not reaching the highest grade if the response is

"easy."

25. The method in accordance with claim 22 wherein the second plurality of simple questions are provided from the same grade as the first plurality of simple questions are if the response is "fit."

5 26. The method in accordance with claim 15 further comprising a step of receiving a response from the learner if the score is worse than a pre-determined lower criterion.

27. The method in accordance with claim 26 further comprising a step of checking whether the grade to which the first plurality of simple questions belong reaches the lowest grade if the response is "difficult."

10 28. The method in accordance with claim 27 wherein the second plurality of simple questions are provided from a lower grade than the first plurality of simple questions are if not reaching the lowest grade if the response is "difficult."

15 29. The method in accordance with claim 27 further comprising a step of explaining the concept of the simple questions to the learner if the grade to which the first plurality of simple questions belong reaches the lowest grade if the response is "difficult."

30. The method in accordance with claim 26 wherein the second plurality of simple questions are provided from the same grade as the first plurality of simple questions are if the response is "fit."

20 31. The method in accordance with claim 6 further comprising a step of retrieving the correct answer for the simple question provided to the learner before the step of checking whether the learner-given answer is

correct.

32. A computer-implemented method for helping a learner practice wherein a plurality of simple questions are sorted into a plurality of grades in a plurality of categories and a plurality of complex questions each include a plurality of components each falling in a target grade in a category, the method comprising the following steps:

providing a complex question to a learner;

receiving a learner-given answer from the learner for the complex question;

checking whether the learner-given answer for the complex question is correct;

if the learner-given answer is incorrect, selecting one of the components of the complex question and executing the following steps:

providing a simple question from the target grade in the category to which the selected component belongs;

receiving from the learner a learner-given answer for the simple question;

checking whether the learner-given answer for the simple question is correct;

if the learner-given answer for the simple question is correct, checking whether the grade to which the simple question belongs reaches the target grade and performing the following steps:

returning to the component-selecting step if the grade to which the simple question belongs reaches the target grade;

selecting a higher grade and returning to the step of providing a simple question if the grade to which the simple question belongs does not reach the target grade;

if the learner-given answer for the simple question is incorrect, checking whether the grade to which the simple question belongs reaches the lowest grade and performing the following steps:

explaining the concept of the simple question if the grade to which the simple question belongs reaches the lowest grade;

selecting a lower grade and returning to the step of providing a simple question if the grade to which the simple question belongs does not reach the lowest grade.